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Docket No.: 043890-0713

DEC 18 2007

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of : Customer Number: 53080
: :
Takehiko TANABU, et al. : Confirmation Number: 3296
: :
Application No.: 10/518,904 : Tech Center Art Unit: 2615
: :
Filed: December 23, 2004 : Examiner: Joseph Saunders, Jr.
: :
For: LOUDSPEAKER

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Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
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Michael E. Fogarty Dec 18, 2007

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Date

Sir:

Submitted herewith is Appellant's Appeal Brief in support of the Notice of Appeal filed October 18, 2007. Please charge the Appeal Brief fee of \$510.00 to Deposit Account 500417.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due under 37 C.F.R. 1.17 and 41.20, and in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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APPEAL BRIEF

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed October 18, 2007,
wherein Appellant appeals from the Primary Examiner's rejection of claims 1, 2, 5 and 6.

Real Party In Interest

This application is assigned to Matsushita Electric Industrial Co., Ltd. by assignment recorded
on December 23, 2004, at Reel 016819, Frame 0607.

Related Appeals and Interferences

To the best of Applicants' and Applicants representatives' knowledge, there are no related
appeals or interferences (see Related Proceedings Appendix).

WDC99 1503396-1.043890.0713

DEC 18 2007

10/518,904

Status of Claims

Claims 1, 2, 5 and 6 are pending. Claims 1, 2, 5 and 6 stand finally rejected. It is from the final rejection of claims 1, 2, 5 and 6 that this Appeal is taken. Claims 3 and 4 were previously cancelled.

Status of Amendments

After the July 18, 2007 Final Office Action, an amendment to claims 1, 2, 5 and 6 was filed on October 18, 2007 in order to overcome the § 112 rejections of claims 1, 2, 5 and 6. In a subsequent Advisory Action issued November 19, 2007, the § 112 rejections were indicated as overcome by the amendment. No new matter was entered.

Summary of Claimed Subject Matter

One embodiment of the present invention as recited in independent claim 1 is directed to a loudspeaker comprising:
a hollow frame having opening sections at its upper side and lower side (Figure 1, reference #1C, Spec. 3:11);
a hat-shaped yoke whose both ends are supported by an inner wall of the frame (Figure 1, reference #3A, Spec. 3:12-13);
a ring-shaped first magnet being coupled with an upper surface of an outer periphery of the yoke (Figure 1, reference #2, Spec. 3:14-15);

10/518,904

a columnar second magnet being coupled with an inner bottom of a middle section of the yoke (Figure 1, reference #4, Spec. 3:16-17);

a ring-shaped first plate being coupled with an upper surface of the first magnet (Figure 1, reference #6, Spec. 3:18-19);

a plate-type second plate being coupled with a lower surface of the second magnet (Figure 1, reference #5, Spec. 3:20-21);

a first diaphragm whose outer periphery is fixed to an upper opening of the frame (Figure 1, reference #9, Spec. 3:22-23);

a second diaphragm whose outer periphery is fixed to a lower opening of the frame (Figure 1, reference #11, Spec. 3:24-25);

a ring-shaped first voice coil whose one end is fixed to the first diaphragm and other end is placed at a first magnetic gap formed between an inner peripheral surface of the first plate and an outer peripheral surface of the middle section of the yoke (Figure 1, reference #10, Spec. 3:26-4:2); and

a second voice coil whose one end is fixed to the second diaphragm and other end is placed at a second magnetic gap formed between an outer peripheral surface of the second plate and an inner peripheral surface of the middle section of the yoke (Figure 1, reference #12, Spec. 4:3-6),

wherein the frame is integrated with the yoke in assembling the frame (Fig. 1, Spec. 4:7), and

an upper surface of the yoke is integrated as a reference plane in mounting for a mold of the frame (Spec. 8:18-22), thereby an interval-accuracy between the first diaphragm and the yoke can be improved as compared with an interval-accuracy between the second diaphragm and the yoke.

Another embodiment of the present invention as recited in independent claim 2 is directed to a loudspeaker comprising:

10/518,904

a hollow frame having opening sections at its upper side and lower side (Figure 1, reference #1C, Spec. 3:11);

a hat-shaped yoke whose both ends are supported by an inner wall of the frame (Figure 1, reference #3A, Spec. 3:12-13);

a ring-shaped first magnet being coupled with an upper surface of an outer periphery of the yoke (Figure 1, reference #2, Spec. 3:14-15);

a columnar second magnet being coupled with an inner bottom of a middle section of the yoke (Figure 1, reference #4, Spec. 3:16-17);

a ring-shaped first plate being coupled with an upper surface of the first magnet (Figure 1, reference #6, Spec. 3:18-19);

a plate-type second plate being coupled with a lower surface of the second magnet (Figure 1, reference #5, Spec. 3:20-21);

a first diaphragm whose outer periphery is fixed to an upper opening of the frame (Figure 1, reference #9, Spec. 3:22-23);

a second diaphragm whose outer periphery is fixed to a lower opening of the frame (Figure 1, reference #11, Spec. 3:24-25);

a ring-shaped first voice coil whose one end is fixed to the first diaphragm and other end is placed at a first magnetic gap formed between an inner peripheral surface of the first plate and an outer peripheral surface of the middle section of the yoke (Figure 1, reference #10, Spec. 3:26-4:2); and

a second voice coil whose one end is fixed to the second diaphragm and other end is placed at a second magnetic gap formed between an outer peripheral surface of the second plate and an inner peripheral surface of the middle section of the yoke (Figure 1, reference #12, Spec. 4:3-6),

10/518,904

wherein the frame is integrated with an outer peripheral part of a connected-component which is formed by coupling the yoke with the first magnet and the first plate (Fig. 3, Spec. 7:11-15), and an upper surface of the yoke is integrated as a reference plane in mounting for a mold of the frame (Spec. 8:18-22), thereby an interval-accuracy between the first diaphragm and the yoke can be improved as compared with an interval-accuracy between the second diaphragm and the yoke.

Another embodiment of the present invention as recited in independent claim 5 is directed to a loudspeaker comprising:

loudspeaker comprising:

a hollow frame having opening sections at its upper side and lower side (Figure 1, reference #1C, Spec. 3:11);

a hat-shaped yoke whose both ends are supported by an inner wall of the frame (Figure 1, reference #3A, Spec. 3:12-13);

a ring-shaped first magnet being coupled with an upper surface of an outer periphery of the yoke (Figure 1, reference #2, Spec. 3:14-15);

a columnar second magnet being coupled with an inner bottom of a middle section of the yoke (Figure 1, reference #4, Spec. 3:16-17);

a ring-shaped first plate being coupled with an upper surface of the first magnet (Figure 1, reference #6, Spec. 3:18-19);

a plate-type second plate being coupled with a lower surface of the second magnet (Figure 1, reference #5, Spec. 3:20-21);

a first diaphragm whose outer periphery is fixed to an upper opening of the frame (Figure 1, reference #9, Spec. 3:22-23);

10/518,904

a second diaphragm whose outer periphery is fixed to a lower opening of the frame (Figure 1, reference #11, Spec. 3:24-25);

a ring-shaped first voice coil whose one end is fixed to the first diaphragm and other end is placed at a first magnetic gap formed between an inner peripheral surface of the first plate and an outer peripheral surface of the middle section of the yoke (Figure 1, reference #10, Spec. 3:26-4:2); and

a second voice coil whose one end is fixed to the second diaphragm and other end is placed at a second magnetic gap formed between an outer peripheral surface of the second plate and an inner peripheral surface of the middle section of the yoke (Figure 1, reference #12, Spec. 4:3-6),

wherein the frame is integrated with the yoke in assembling the frame (Fig. 1, Spec. 4:7), a lower surface of the yoke is integrated as a reference plane in mounting for a mold of the frame (Spec. 8:18-22), thereby an interval-accuracy between the second diaphragm and the yoke can be improved as compared with an interval-accuracy between the first diaphragm and the yoke.

Another embodiment of the present invention as recited in independent claim 6 is directed to a loudspeaker comprising:

a hollow frame having opening sections at its upper side and lower side (Figure 1, reference #1C, Spec. 3:11);

a hat-shaped yoke whose both ends are supported by an inner wall of the frame (Figure 1, reference #3A, Spec. 3:12-13);

a ring-shaped first magnet being coupled with an upper surface of an outer periphery of the yoke (Figure 1, reference #2, Spec. 3:14-15);

a columnar second magnet being coupled with an inner bottom of a middle section of the yoke (Figure 1, reference #4, Spec. 3:16-17);

10/518,904

a ring-shaped first plate being coupled with an upper surface of the first magnet (Figure 1, reference #6, Spec. 3:18-19);

a plate-type second plate being coupled with a lower surface of the second magnet (Figure 1, reference #5, Spec. 3:20-21);

a first diaphragm whose outer periphery is fixed to an upper opening of the frame (Figure 1, reference #9, Spec. 3:22-23);

a second diaphragm whose outer periphery is fixed to a lower opening of the frame (Figure 1, reference #11, Spec. 3:24-25);

a ring-shaped first voice coil whose one end is fixed to the first diaphragm and other end is placed at a first magnetic gap formed between an inner peripheral surface of the first plate and an outer peripheral surface of the middle section of the yoke (Figure 1, reference #10, Spec. 3:26-4:2); and

a second voice coil whose one end is fixed to the second diaphragm and other end is placed at a second magnetic gap formed between an outer peripheral surface of the second plate and an inner peripheral surface of the middle section of the yoke (Figure 1, reference #12, Spec. 4:3-6),

wherein the frame is integrated with an outer peripheral part of a connected-component which is formed by coupling the yoke with the first magnet and the first plate (Fig. 3, Spec. 7:11-15), and a lower surface of the yoke is integrated as a reference plane in mounting for a mold of the frame (Spec. 8:18-22), thereby an interval-accuracy between the second diaphragm and the yoke can be improved as compared with an interval-accuracy between the first diaphragm and the yoke.

10/518,904**Grounds of Rejection To Be Reviewed By Appeal**

(1) Claims 1, 2, 5 and 6 were rejected under 35 U.S.C. § 103(a) for obviousness predicated upon Miyamoto et al. (USP No. 6,744,895) ("Miyamoto") in view of Han et al. (US 2002/0071590) ("Han").

10/518,904

Argument

Claims 1, 2, 5 and 6 stand rejected under 35 U.S.C. § 103(a) over Miyamoto in view of Han.

For the convenience of the Honorable Board of Patent Appeals and Interferences ("the Board"), Applicants are arguing claims 1, 2, 5 and 6 simultaneously, as the issues concerning the patentability of these claims are similar. It is respectfully submitted that none of the cited prior art, alone or in combination, disclose or suggest the limitations of claims 1, 2, 5 and 6 of a loudspeaker wherein the frame is integrated with the yoke in assembling the frame (claims 1 and 5) or the frame is integrated with an outer peripheral part of a connected-component which is formed by coupling the yoke with the first magnet and the first plate (claims 2 and 6), and wherein either an upper surface (claims 1 and 2) or a lower surface (claims 5 and 6) of the yoke is integrated as a reference plane in mounting for a mold of the frame. As a result of the foregoing structure, an interval-accuracy between the first (claims 1 and 2) or second (claims 5 and 6) diaphragm and the yoke can be improved as compared with an interval-accuracy between the second or first diaphragm and the yoke.

It is admitted in the Office Action that Miyamoto fails to disclose the above cited features of claims 1, 2, 5 and 6. It is alleged that Han teaches that an upper surface of the yoke 100 is integrated as a reference plane in mounting for a mold of the frame. However, Han fails to disclose the positional relationship between the yoke and the other elements of the speaker. It appears that nowhere in the Han reference is there any mention of a diaphragm. Han merely discloses that injection molding "unitizingly secures the yoke part, the magnet and the upper plate" (see, Abstract of Han). As such, without mentioning a diaphragm, there can be no indication of an improvement in the interval-accuracy of one diaphragm and the yoke over that of another. Accordingly, there is no suggestion or motivation in terms of improving interval-accuracy, as suggested in claims 1, 2, 5 and 6.

10/518,904

In addition, it is alleged that it would have been obvious to use the frame of Han in place of the frame of Miyamoto to enhance the speaker of Miyamoto, and that the interval-accuracy would be a direct result of the combination of both references. However, the Examiner has not provided the requisite evidence necessary to support this allegation.

Miyamoto teaches a loudspeaker which has a cylindrical case 21 having an annular projection 21b inwardly projecting from the inside wall of the case (see, Fig. 1 of Miyamoto). A pole piece (yoke) 22 is secured to the inside wall of the projection 21b at a flange 22a. As such, the speaker case 21 is being held separately from that of the pole piece (yoke). As such, even if the insert molding of Han were applied to Miyamoto, the combination would still not suggest that the case 21 is integrated with the yoke 22 using insert molding. Moreover, Miyamoto does not disclose a device wherein the frame is integrated with the yoke in assembling the frame and wherein the interval-accuracy is improved from one diaphragm over the other. As the Examiner implies by the use of the same references to disclose the limitations of claims having converse but similar features, the cited references do not distinguish between one diaphragm and the other. Importantly, Han also fails to disclose this limitation. As such, the proposed combination would not suggest the feature that an interval-accuracy between one diaphragm (i.e., the first or second) and the yoke can be improved as compared with an interval-accuracy between the other diaphragm (the second or first, respectively) and the yoke.

Therefore, Applicants respectfully submit that the combination of Miyamoto and Han fails to disclose the above cited features of the present invention.

In order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA1974). As Miyamoto and Han, at a minimum, fail to describe a loudspeaker wherein the frame is integrated with the yoke in

10/518,904

assembling the frame or the frame is integrated with an outer peripheral part of a connected-component which is formed by coupling the yoke with the first magnet and the first plate, and wherein either an upper surface or a lower surface of the yoke is integrated as a reference plane in mounting for a mold of the frame, it is submitted that Miyamoto, alone or in combination with Han, does not render claims 1, 2, 5 and 6 obvious. Accordingly, it is respectfully requested that the § 103 rejection of claims 1, 2, 5 and 6 be withdrawn.

Conclusion

For all of the foregoing reasons, Appellants respectfully submit that the grounds of rejection of the claims on appeal is in error and should be reversed. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,
McDERMOTT WILL & EMERY LLP



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10/518,904

CLAIMS APPENDIX

1. A loudspeaker comprising:

a hollow frame having opening sections at its upper side and lower side;

a hat-shaped yoke whose both ends are supported by an inner wall of the frame;

a ring-shaped first magnet being coupled with an upper surface of an outer periphery of the yoke;

a columnar second magnet being coupled with an inner bottom of a middle section of the yoke;

a ring-shaped first plate being coupled with an upper surface of the first magnet;

a plate-type second plate being coupled with a lower surface of the second magnet;

a first diaphragm whose outer periphery is fixed to an upper opening of the frame;

a second diaphragm whose outer periphery is fixed to a lower opening of the frame;

a ring-shaped first voice coil whose one end is fixed to the first diaphragm and other end is placed at a first magnetic gap formed between an inner peripheral surface of the first plate and an outer peripheral surface of the middle section of the yoke; and

a second voice coil whose one end is fixed to the second diaphragm and other end is placed at a second magnetic gap formed between an outer peripheral surface of the second plate and an inner peripheral surface of the middle section of the yoke,

wherein the frame is integrated with the yoke in assembling the frame, and

an upper surface of the yoke is integrated as a reference plane in mounting for a mold of the frame, thereby an interval-accuracy between the first diaphragm and the yoke can be improved as compared with an interval-accuracy between the second diaphragm and the yoke.

10/518,904

2. A loudspeaker comprising:

a hollow frame having opening sections at its upper side and lower side;

a hat-shaped yoke whose both ends are supported by an inner wall of the frame;

a ring-shaped first magnet being coupled with an upper surface of an outer periphery of the yoke;

a columnar second magnet being coupled with an inner bottom of a middle section of the yoke;

a ring-shaped first plate being coupled with an upper surface of the first magnet;

a plate-type second plate being coupled with a lower surface of the second magnet;

a first diaphragm whose outer periphery is fixed to an upper opening of the frame;

a second diaphragm whose outer periphery is fixed to a lower opening of the frame;

a ring-shaped first voice coil whose one end is fixed to the first diaphragm and other end is placed at a first magnetic gap formed between an inner peripheral surface of the first plate and an outer peripheral surface of the middle section of the yoke; and

a second voice coil whose one end is fixed to the second diaphragm and other end is placed at a second magnetic gap formed between an outer peripheral surface of the second plate and an inner peripheral surface of the middle section of the yoke,

wherein the frame is integrated with an outer peripheral part of a connected-component which is formed by coupling the yoke with the first magnet and the first plate, and

an upper surface of the yoke is integrated as a reference plane in mounting for a mold of the frame, thereby an interval-accuracy between the first diaphragm and the yoke can be improved as compared with an interval-accuracy between the second diaphragm and the yoke.

10/518,904

5. A loudspeaker comprising:

a hollow frame having opening sections at its upper side and lower side;

a hat-shaped yoke whose both ends are supported by an inner wall of the frame;

a ring-shaped first magnet being coupled with an upper surface of an outer periphery of the yoke;

a columnar second magnet being coupled with an inner bottom of a middle section of the yoke;

a ring-shaped first plate being coupled with an upper surface of the first magnet;

a plate-type second plate being coupled with a lower surface of the second magnet;

a first diaphragm whose outer periphery is fixed to an upper opening of the frame;

a second diaphragm whose outer periphery is fixed to a lower opening of the frame;

a ring-shaped first voice coil whose one end is fixed to the first diaphragm and other end is placed at a first magnetic gap formed between an inner peripheral surface of the first plate and an outer peripheral surface of the middle section of the yoke; and

a second voice coil whose one end is fixed to the second diaphragm and other end is placed at a second magnetic gap formed between an outer peripheral surface of the second plate and an inner peripheral surface of the middle section of the yoke,

wherein the frame is integrated with the yoke in assembling the frame, a lower surface of the yoke is integrated as a reference plane in mounting for a mold of the frame, thereby an interval-accuracy between the second diaphragm and the yoke can be improved as compared with an interval-accuracy between the first diaphragm and the yoke.

10/518,904

6. A loudspeaker comprising:

a hollow frame having opening sections at its upper side and lower side;

a hat-shaped yoke whose both ends are supported by an inner wall of the frame;

a ring-shaped first magnet being coupled with an upper surface of an outer periphery of the yoke;

a columnar second magnet being coupled with an inner bottom of a middle section of the yoke;

a ring-shaped first plate being coupled with an upper surface of the first magnet;

a plate-type second plate being coupled with a lower surface of the second magnet;

a first diaphragm whose outer periphery is fixed to an upper opening of the frame;

a second diaphragm whose outer periphery is fixed to a lower opening of the frame;

a ring-shaped first voice coil whose one end is fixed to the first diaphragm and other end is placed at a first magnetic gap formed between an inner peripheral surface of the first plate and an outer peripheral surface of the middle section of the yoke; and

a second voice coil whose one end is fixed to the second diaphragm and other end is placed at a second magnetic gap formed between an outer peripheral surface of the second plate and an inner peripheral surface of the middle section of the yoke,

wherein the frame is integrated with an outer peripheral part of a connected-component which is formed by coupling the yoke with the first magnet and the first plate, and a lower surface of the yoke is integrated as a reference plane in mounting for a mold of the frame, thereby an interval-accuracy between the second diaphragm and the yoke can be improved as compared with an interval-accuracy between the first diaphragm and the yoke.

10/518,904

EVIDENCE APPENDIX

No evidence provided during prosecution, but available upon request.

10/518,904

RELATED PROCEEDINGS APPENDIX

To the best of Applicants' and Applicants representatives' knowledge, there are no related appeals or interferences.